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Juha Salo

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BANNER & WITCOFF

1001 G STREET N W

SUITE 1100

WASHINGTON, DC 20001

EXAMINER

MA, JOHNNY

ART UNIT

PAPER NUMBER

2623

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/893,421		SALO ET AL.	
	Examiner		Art Unit	
	Johnny Ma		2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 45-100 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 45-100 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 45-100 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 45-100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gotwald (US 5,987,518 of record) in further view of Addington (US 6,928,656 B1).

Regarding claim 45, the claimed "head end device for use in a hierarchical network" is met as follows: The claimed "classifier connectable to a source of content and operable to place the content into at least one of a plurality of hierarchically modulated [...] transmitted data streams which respectively have a different priority assigned to the contents therein corresponding to a particular class of the content" is met by the prioritizing modules (48, 50, and 52 of Figure 2), which operate to set a priority band in each MPEG message based on one or a combination of various conditions extracted from the messages [col. 6, lines 4-6]. Column 5, lines 41-46 clearly state that the three types of data are prioritized and later multiplexed together for transmission. The specification, in this section, clearly states that the control messages will always get higher priority over the MPEG2 and IP data, therefore ensuring that they arrive faster and more reliably than the MPEG2 and IP data. Furthermore, column 6, lines 36-39 clearly state

Art Unit: 2623

that the each packet can be multiplexed for output on the broadband channel with the appropriate priorities. However, the Gotwald reference does not specifically teach “a plurality of hierarchically modulated simultaneously transmitted data streams.” Now note the Addington reference that teaches a method for delivery of IP data over MPEG-2 transport networks wherein multiple MPEG transport streams are used to transmit data including IP, video, and audio (Addington 3:30-40; 4:30-41; 50-53). Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Gotwald transmission of internet protocol data over a broadband MPEG channel with the Addington transmission of internet protocol data over a plurality of broadband MPEG channels for the purpose of more fully utilizing the service providers available bandwidth and thus increase the number of users that may be serviced by the system and providing a greater number of video, audio, and IP services to the user.

Regarding claim 46, the claimed “device as claimed in claim 45, wherein the classification of content is made in accordance with a data type of the content” is met by the prioritization being done according to data type [col. 6, line 8].

Regarding claim 47, the claimed “device as claimed in claim 46, wherein the classifier is connectable to a data stream of content in the form of data elements and a splitter is connected to the output of the classifier wherein the classifier identifies the data type of each element of the data streams and inserts a marker into said streams indicative of a priority assigned to the element such that splitter subsequently places each data element, in accordance with the marker, into a corresponding hierarchical transport stream for subsequent transmission by the network” is met by the prioritizing modules (48, 50, and 51 of Figure 2), which can look at the incoming

Art Unit: 2623

packet, extract the condition variable (classification), look up the priority band from a table, insert the priority into the message, and pass the message with the inserted priority along to the multiplexing driver [col. 6, lines 9-13].

Regarding claim 48, the claimed “device as claimed in claim 46, further including a connection to a look-up table accessible in use by the classifier, the table comprising a set of profiles, each profile including at least one definition of a priority for a particular data type wherein a selection by the classifier of a particular profile for identifying the data type of each element is determined by the network” is met by the look-up table, which stores priority information corresponding to the classification (condition) of the content [col. 6, lines 9-13].

Regarding claim 49, the claimed “device as claimed in claim 45, wherein the hierarchically modulated simultaneously transmitted data streams are ranked in accordance with a predetermined criterion” is met by the conditions such as source IP address, destination IP address, data type and connection type, which serve as criterion for prioritization of the streams [col. 6, lines 6-8].

Regarding claim 50, the claimed “method of transmitting content in a hierarchical network comprising classifying content received for transmission and placing the content into at least one of a plurality of hierarchically modulated [...] transmitted data streams which respectively have a different priority assigned to the content corresponding to the classification of the content” is met by the prioritizing step, which operates to set a priority band in each MPEG message based on one or a combination of various conditions extracted from the messages [col. 6, lines 4-6]. However, the Gotwald reference does not specifically teach “a plurality of hierarchically modulated simultaneously transmitted data streams.” Now note the

Art Unit: 2623

Addington reference that teaches a method for delivery of IP data over MPEG-2 transport networks wherein multiple MPEG transport streams are used to transmit data including IP, video, and audio (Addington 3:30-40; 4:30-41; 50-53). Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Gotwald transmission of internet protocol data over a broadband MPEG channel with the Addington transmission of internet protocol data over a plurality of broadband MPEG channels for the purpose of more fully utilizing the service providers available bandwidth and thus increase the number of users that may be serviced by the system and providing a greater number of video, audio, and IP services to the user.

Regarding claim 51, the claimed “method as claimed in claim 50, including defining a data stream for a particular classification” is met by the conditions such as source IP address, destination IP address, data type and connection type, which can later define the prioritization of the MPEG data streams [col. 6, lines 6-8].

Regarding claim 52, the claimed “method as claimed in claim 51, including establishing a set of profiles, each of which includes at least one definition of a data stream for a particular classification wherein the selection of a particular profile is determined by the network” is again, met by the look-up table, which aides in the classification and prioritization of content based on the extracted data stream information and the conditions that the prioritizing modules are looking for [col. 6, lines 4-13].

Regarding claim 53, the claimed “method as claimed in claim 52, wherein the network determines the selection of a profile on the basis of an intended recipient of the content” is met by the prioritization being based on the destination IP address [col. 6, line 7].

Art Unit: 2623

Regarding claim 54, the claimed “method as claimed in claim 52, wherein the network determines the selection of a profile on the basis of a service providing said content” is met by the prioritization being based on the source IP address [col. 6, lines 7-8].

Regarding claim 55, the claimed “method as claimed in claim 52, wherein the network determines the selection of a profile on the basis of network load” is met by the prioritization being based on the connection type [col. 6, line 8].

Regarding claim 56, the claimed “system for delivering content over a hierarchical network” is met as follows:

- The claimed “source of content deliverable, to a network, the network including head end equipment operable to place content into at least one of a plurality of selected hierarchically modulated data streams for [...] transmission by a transmitter” is met by the server which, as discussed above and in column 6, lines 4-13, can place data streams into a plurality of prioritized/classified groups before transmission over the CATV network.
- The claimed “terminal operable to receive the data stream, wherein the head-end equipment classifies the content and in accordance with the classification places it into the corresponding hierarchically modulated data streams for [...] transmission which respectively have a different priority assigned to the content” is met by the client of Figure 3, which serves to receive the classified and prioritized data streams from the server [col. 5, lines 22-33].

However, the Gotwald reference does not specifically teach a plurality of hierarchically modulated simultaneously transmitted data streams. Now note the Addington reference that

Art Unit: 2623

teaches a method for delivery of IP data over MPEG-2 transport networks wherein multiple MPEG transport streams are used to transmit data including IP, video, and audio (Addington 3:30-40; 4:30-41; 50-53). Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Gotwald transmission of internet protocol data over a broadband MPEG channel with the Addington transmission of internet protocol data over a plurality of broadband MPEG channels for the purpose of more fully utilizing the service providers available bandwidth and thus increase the number of users that may be serviced by the system and providing a greater number of video, audio, and IP services to the user.

Regarding claim 57, the claimed “system as claimed in claim 56, wherein the terminal provides a return channel connectable, in use, to the network, such that a request for the delivery of content may be originated by the terminal” is met by the bidirectional link 20, which serves to request data from the server [col. 5, lines 36-41].

Regarding claim 58, the claimed “system as claimed in claim 56, wherein the hierarchically modulated simultaneously transmitted data streams are ranked in accordance with a predetermined criteria” is met by the conditions such as source IP address, destination IP address, data type and connection type, which serve as criterion for prioritization of the streams [col. 6, lines 6-8].

Regarding claim 59, the claimed “method of delivery of content to a terminal in a network having a plurality of hierarchically modulated simultaneously transmitted data streams” is met as follows:

Art Unit: 2623

- The claimed step of “receiving a request for content” is met by the receiving of a request from the client over bidirectional line 20 [col. 4, lines 12-13].
- The claimed step of “passing said request to a network gateway and subsequently receiving content identified in said request in the form of at least one content element” is met by the reception of the requested IP data via network interfaces 32 [col. 4, lines 29-31].
- The claimed step of “classifying the at least one content element” is met by the classification/prioritization according to the predetermined conditions [col. 6, lines 4-13].
- The claimed step of “assigning a priority to said at least one content element in accordance with the classification” is met by the same classification/prioritization according to the predetermined conditions [col. 6, lines 4-13].
- The claimed step of “assigning said content element to the hierarchically modulated [...] transmitted data streams related to the priority assigned to the content” is met by the priority determining the transmission of the content [col. 4, lines 60-66].

However, the Gotwald reference does not specifically teach “a plurality of hierarchically modulated simultaneously transmitted data streams.” Now note the Addington reference that teaches a method for delivery of IP data over MPEG-2 transport networks wherein multiple MPEG transport streams are used to transmit data including IP, video, and audio (Addington 3:30-40; 4:30-41; 50-53). Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Gotwald

Art Unit: 2623

transmission of internet protocol data over a broadband MPEG channel with the Addington transmission of internet protocol data over a plurality of broadband MPEG channels for the purpose of more fully utilizing the service providers available bandwidth and thus increase the number of users that may be serviced by the system and providing a greater number of video, audio, and IP services to the user.

Regarding claim 60, the claimed “method as claimed in claim 59, wherein a user identity is identified from the request and a corresponding user profile is obtained in accordance with which profile priority is assigned to the at least one content element” is met by the priority being able to be based on the destination IP address of the content to be sent to the requesting client [col. 6, lines 4-13].

Regarding claim 61, the claimed “method as claimed in claim 59, wherein said request is received in a return channel established by a terminal of a public land mobile network via a public switched telephone network and the content element is delivered over a broadband broadcast network” is met by the standard network 20, which serves as a bidirectional connection between client and server and the broadband channel 16 which serves to deliver the content from the server to the client [Fig. 1].

Regarding claim 62, the claimed “method as claimed in claim 59, wherein said hierarchically modulated simultaneously transmitted data streams are ranked in accordance with a predetermined criteria” is met by the conditions such as source IP address, destination IP address, data type and connection type, which serve as criterion for prioritization of the streams [col. 6, lines 6-8].

Regarding claim 63, the claimed “computer program comprising executable code for execution when loaded on a computer, wherein the computer is operable in accordance with said code to carry out the method according to claim 59” is met by the same discussion as proposed in the rejection of claim 59, taking into account that this system and method is implemented using a head-end computer which can be programmed according to many well known executable code standards.

Regarding claim 64, the claimed “program as claimed in claim 63, stored on a computer readable medium” is met by the same fact that the computer executable code is stored on a hard drive or other form of readable medium for execution at the head-end computer.

Regarding claim 65, the claimed “device as claimed in claim 47, further including a connection to a look-up table accessible in use by said classifier, the table comprising a set of profiles, each of which includes at least one definition of a priority for a particular data type wherein a selection by the classifier of a particular profile for identifying a data type of each element is determined by the network” is met by the look-up table, which stores priority information corresponding to the classification (condition) of the content [col. 6, lines 9-13].

Regarding claim 66, the claimed “method as claimed in claim 51, wherein the hierarchically modulated simultaneously transmitted data streams are ranked in accordance with a predetermined criterion” is met by the ability to set a priority band in each MPEG message based on one or a combination of various pre-determined conditions extracted from the messages [col. 6, lines 4-6].

Regarding claim 67, the claimed “method as claimed in claim 52, wherein the hierarchically modulated simultaneously transmitted data streams are ranked in accordance with

Art Unit: 2623

a predetermined criterion” is met by the ability to set a priority band in each MPEG message based on one or a combination of various pre-determined conditions extracted from the messages [col. 6, lines 4-6].

Regarding claim 68, the claimed “method as claimed in claim 53, wherein the hierarchically modulated simultaneously transmitted data streams are ranked in accordance with a predetermined criterion” is met by the ability to set a priority band in each MPEG message based on one or a combination of various pre-determined conditions extracted from the messages [col. 6, lines 4-6].

Regarding claim 69, the claimed “method as claimed in claim 54, wherein the hierarchically modulated simultaneously transmitted data streams are ranked in accordance with a predetermined criterion” is met by the ability to set a priority band in each MPEG message based on one or a combination of various pre-determined conditions extracted from the messages [col. 6, lines 4-6].

Regarding claim 70, the claimed “method as claimed in claim 55, wherein the hierarchically modulated simultaneously transmitted data streams are ranked in accordance with a predetermined criterion” is met by the ability to set a priority band in each MPEG message based on one or a combination of various pre-determined conditions extracted from the messages [col. 6, lines 4-6].

Regarding claim 71, the claimed “method as claimed in claim 51, wherein the network is a terrestrial digital video broadcast network (DVB-T)” is met by the fact that the network can comprise a CATV network which functions identically to a DVB-T network [col. 3, lines 48-50].

Regarding claim 72, the claimed “method as claimed in claim 52, wherein the network is a terrestrial digital video broadcast network (DVB-T)” is met by the fact that the network can comprise a CATV network which functions identically to a DVB-T network [col. 3, lines 48-50].

Regarding claim 73, the claimed “method as claimed in claim 53, wherein the network is a terrestrial digital video broadcast network (DVB-T)” is met by the fact that the network can comprise a CATV network which functions identically to a DVB-T network [col. 3, lines 48-50].

Regarding claim 74, the claimed “computer program comprising executable code for execution when loaded on a computer, wherein the computer is operable in accordance with said code to carry out the method according to claim 50” is met by the same discussion as proposed in the rejection of claim 50, taking into account that this system and method is implemented using a head-end computer which can be programmed according to many well known executable code standards.

Regarding claim 75, the claimed “computer program comprising executable code for execution when loaded on a computer, wherein the computer is operable in accordance with said code to carry out the method according to claim 51” is met by the same discussion as proposed in the rejection of claim 51, taking into account that this system and method is implemented using a head-end computer which can be programmed according to many well known executable code standards.

Regarding claim 76, the claimed “computer program comprising executable code for execution when loaded on a computer, wherein the computer is operable in accordance with said code to carry out the method according to claim 52” is met by the same discussion as proposed in the rejection of claim 52, taking into account that this system and method is implemented using a

Art Unit: 2623

head-end computer which can be programmed according to many well known executable code standards.

Regarding claim 77, the claimed “computer program comprising executable code for execution when loaded on a computer, wherein the computer is operable in accordance with said code to carry out the method according to claim 53” is met by the same discussion as proposed in the rejection of claim 53, taking into account that this system and method is implemented using a head-end computer which can be programmed according to many well known executable code standards.

Regarding claim 78, the claimed “system as claimed in claim 57, wherein said hierarchically modulated simultaneously transmitted data streams are ranked in accordance with a predetermined criteria” is met by the conditions such as source IP address, destination IP address, data type and connection type, which serve as criterion for prioritization of the streams [col. 6, lines 6-8].

Regarding claim 79, the claimed “method as claimed in claim 59, wherein said request is received in a return channel established by a terminal of a public land mobile network via a public switched telephone network and the content element is delivered over a broadband broadcast network” is met by the standard network 20, which serves as a bidirectional connection between client and server and the broadband channel 16 which serves to deliver the content from the server to the client [Fig. 1].

Regarding claim 80, the claimed “method as claimed in claim 59, wherein the hierarchically modulated simultaneously transmitted data streams are ranked in accordance with a predetermined criteria” is met by the conditions such as source IP address, destination IP

Art Unit: 2623

address, data type and connection type, which serve as criterion for prioritization of the streams [col. 6, lines 6-8].

Regarding claim 81, the claimed “method as claimed in claim 60, wherein the hierarchically modulated simultaneously transmitted data streams are ranked in accordance with a predetermined criteria” is met by the conditions such as source IP address, destination IP address, data type and connection type, which serve as criterion for prioritization of the streams [col. 6, lines 6-8].

Regarding claim 82, the claimed “computer program comprising executable code for execution when loaded on a computer, wherein the computer is operable in accordance with said code to carry out the method according to claim 59” is met by the same discussion as proposed in the rejection of claim 59, taking into account that this system and method is implemented using a head-end computer which can be programmed according to many well known executable code standards.

Regarding claim 83, the claimed “computer program comprising executable code for execution when loaded on a computer, wherein the computer is operable in accordance with said code to carry out the method according to claim 60” is met by the same discussion as proposed in the rejection of claim 60, taking into account that this system and method is implemented using a head-end computer which can be programmed according to many well known executable code standards.

Regarding claim 84, the claimed “computer program comprising executable code for execution when loaded on a computer, wherein the computer is operable in accordance with said code to carry out the method according to claim 61” is met by the same discussion as proposed in

Art Unit: 2623

the rejection of claim 61, taking into account that this system and method is implemented using a head-end computer which can be programmed according to many well known executable code standards.

Regarding claim 85, the claimed “method as claimed in claim 54, wherein the network is a terrestrial digital video broadcast network (DVB-T)” is met by the fact that the network can comprise a CATV network which functions identically to a DVB-T network [col. 3, lines 48-50].

Regarding claim 86, the claimed “method as claimed in claim 62, wherein the network is a terrestrial digital video broadcast network (DVB-T)” is met by the fact that the network can comprise a CATV network which functions identically to a DVB-T network [col. 3, lines 48-50].

Regarding claim 87, the claimed “computer program comprising executable code for execution when loaded on a computer, wherein the computer is operable in accordance with said code to carry out the method according to claim 71” is met by the same discussion as proposed in the rejection of claim 71, taking into account that this system and method is implemented using a head-end computer which can be programmed according to many well known executable code standards.

Regarding claim 88, the claimed “computer program comprising executable code for execution when loaded on a computer, wherein the computer is operable in accordance with said code to carry out the method according to claim 54” is met by the same discussion as proposed in the rejection of claim 54, taking into account that this system and method is implemented using a head-end computer which can be programmed according to many well known executable code standards.

Regarding claim 89, the claimed “computer program comprising executable code for execution when loaded on a computer, wherein the computer is operable in accordance with said code to carry out the method according to claim 55” is met by the same discussion as proposed in the rejection of claim 55, taking into account that this system and method is implemented using a head-end computer which can be programmed according to many well known executable code standards.

Regarding claims 90-100, the claimed “program as claimed in [claims 66, 73-77, 82-64, and 88-89, respectively], stored on a computer readable medium” is met by the same fact that the computer executable code is stored on a hard drive or other form of readable medium for execution at the head-end computer.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johnny Ma whose telephone number is (571) 272-7351. The examiner can normally be reached on 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Chris Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2623

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jm


CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600